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## PATENT ABSTRACTS OF JAPAN

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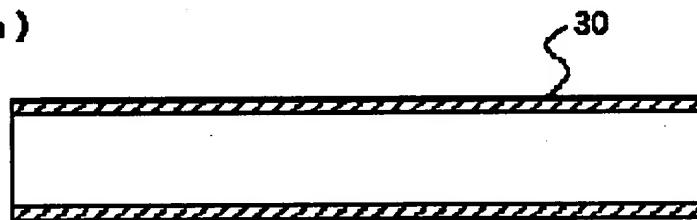
**(54) METALLIC TUBE  
JOINED BODY FOR  
EXPANSION AND ITS  
MANUFACTURE**

**(57) Abstract:**

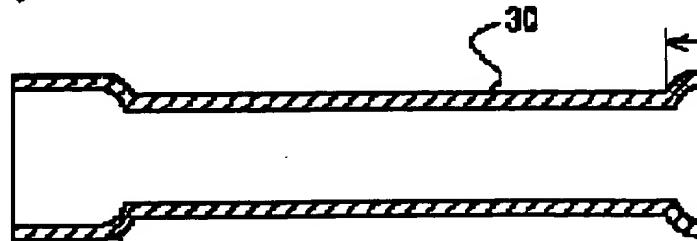
**PROBLEM TO BE SOLVED:** To provide a metallic tube joined body for expansion and its manufacturing method wherein the strength and airtightness of a joined part are not reduced even in the case of expansion, deformation resistance is also few in the case of expansion and moreover a difference in level generating in the joined part is lessened.

**SOLUTION:** A metallic tube joined body 32 the inside diameter of the joined part of which is larger than that of non-joined part is obtained by mutually diffusion bonding or welding metallic tubes 30 the inside diameter in the vicinity of the end part of which are expanded so that an end part expanding ratio become  $\leq 5\%$  or by diffusion bonding metallic tubes the inside diameter in the vicinity of the end part of which are

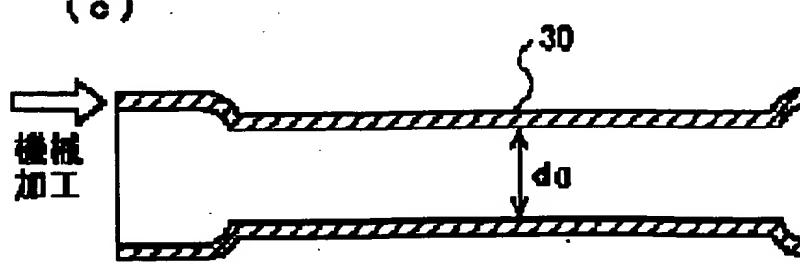
(a)



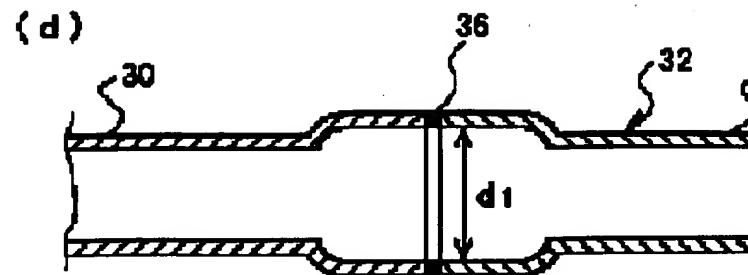
(b)



(c)



not expanded so as to become a prescribed transverse bulging ratio. Also, metallic tube joined body the inside diameter of the joined part of which is larger than that of non-joined part is obtained by mutually and mechanically combining metallic tubes the inside diameter in the vicinity of the end part of which are expanded so that the end part expanding ratio become  $\pm 10\%$ .



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